

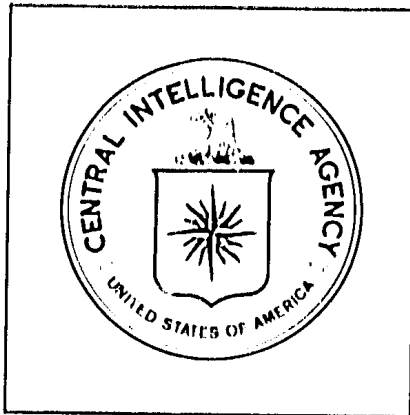
25X1

Approved For Release 2006/10/06 : CIA-RDP86T00608R000600200001-3

**Page Denied**

Approved For Release 2006/10/06 : CIA-RDP86T00608R000600200001-3

**Top Secret**



# *Daily Surveyor*

25X1

**Top Secret**

25X1

188

29 January 1975

**Page Denied**

25X1

[REDACTED]  
SURVEYOR

OSI-S- 20/75

29 January 1975

[REDACTED] 25X1

*This publication is produced daily from selected incoming reports of all kinds. The views expressed are preliminary and subject to change. They have not been coordinated outside of OSI and OWI and do not necessarily reflect official positions of these offices. No action should be taken based solely on the preliminary evaluations of items herein. Users should consult the original sources of items for greater details. Questions concerning this publication should be directed to the Surveyor Staff, OSI, [REDACTED]*

25X1

Soviets Develop Technology for the Production of High-Analysis Phosphate Fertilizer: Soviet specialists of the State Scientific Research and Planning Institute of Nitrogen Industry and Organic Synthesis Products, Tashkent reportedly have worked out a technology for the production of ammonium polyphosphate containing 80 percent nutrients. The Soviets state that this concentrated phosphate fertilizer is characterized by slow action which permits a full application to the soil in the spring, thus avoiding the need for supplementary feeding later in the growing season. In addition, tests have shown that it increases crop yields 10 percent more than conventional fertilizers. [REDACTED]

[REDACTED] 25X1

25X1

Comment: The fact that Soviet interest in better phosphate fertilizers is showing up at this time, after years of neglect, ties in with recent Soviet agreements signed with US and Italian firms for the construction of a number of ammonia plants in the USSR. The production of these plants plus a barter agreement that provides for the importation of 1 million tons of US phosphoric acid per year for 20 years should furnish ample raw materials for the manufacture of ammonium polyphosphate. But until the first of the ammonia plants comes on stream, probably in 1978, and the phosphoric acid begins arriving from the US, it is not likely that this high analysis phosphate fertilizer will be produced in quantities significant to Soviet agriculture.

The technology "worked out" by the Soviets most likely involves the treatment of raw phosphate rock with acid, the oldest

• 25X1

Changes and comments due c.o.b. 4 February

[REDACTED]

25X1

[REDACTED] Top Secret

[redacted]

and still the most important commercial process for making quality phosphate fertilizers. The manufacture of these phosphates involves, as an intermediate step, the production of phosphoric acid which is combined with ammonia to produce the ammonium phosphates.

The manufacture of concentrated phosphate fertilizers requires expensive equipment, and the Soviets have preferred, in the past, to use ordinary superphosphate and finely ground raw rock phosphate "for reasons of expediency." It was almost certain, however, that eventually they would turn to phosphates of better quality and higher concentration. At least half of the arable land in the Soviet Union is deficient in phosphorus, and the high-analysis phosphate fertilizers with their greater solubility can be expected to increase crop yields, raise protein content, and speed the ripening of grain. Additional advantages of the high analysis over the low analysis fertilizers are found in the cost of bagging, handling, and transportation per unit of plant nutrient.

25X1 [redacted]

Soviet Military Laser Program Probably Strives for Simple Fuel Requirements for Gas Dynamic Lasers: In a recent publication, members of the laser group headed by A. M. Prokhorov and V. K. Konyukhov at the Lebedev Institute, Moscow, reported the results of an investigation into the maximum possible water vapor content in a CO<sub>2</sub> gas dynamic laser (GDL). They successfully established laser action with a water vapor content as high as 50 percent using higher initial temperatures and mach numbers than customary.

25X1 [redacted]

Comment: The ability to operate GDLs with high water vapor content (above a few percent) permits a wide range of simple fuels including solid propellants and air fuel mixtures to be used. Use of these types of fuel will allow construction of high power combustion/detonation GDLs requiring less delicate regulating than has been necessary in the past. A US laser expert found the Soviet success in achieving action with such a high water vapor content to be a surprising and unusual development. Water vapor is a by-product of combustion or detonation and often stifles GDL operation.

25X1 [redacted]

25X1

[redacted]

2  
Top Secret

OSI-S-20/75  
29 Jan 75

25X1

25X1

**Page Denied**